PHILIPS BULLETIN

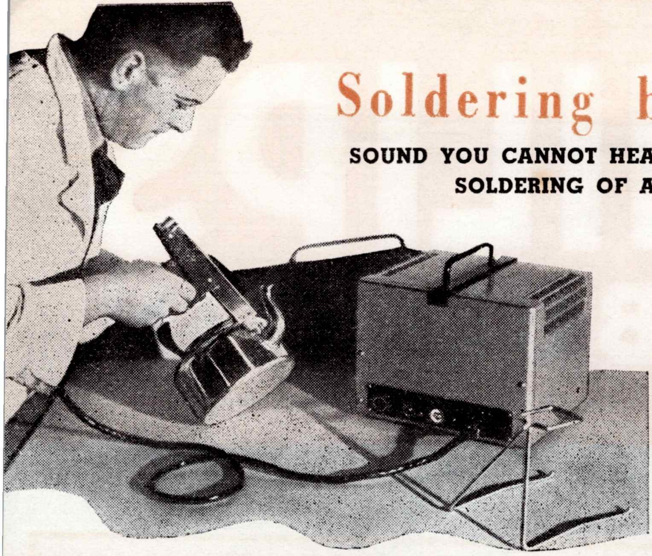
AUGUST - SEPTEMBER, 1952

FROZEN ACTION ON ICE
See pages 4 and 5

PHILIPS ELECTRICAL INDUSTRIES OF NEW ZEALAND LIMITED

Soldering by Sound

SOUND YOU CANNOT HEAR REVOLUTIONISES SOLDERING OF ALUMINIUM



Even an unskilled factory worker can use the ultrasonic soldering iron with ease. Here the spout is being soldered to an aluminium kettle. Previously spouts were pressed in. This one became leaky and was discarded by a disgruntled housewife.

ALUMINIUM, the world's most abundant non-ferrous metal, so widely used in all branches of industry has always suffered from one grave disadvantage over other metals. For many years it has not been possible to solder seams, holes or joints in equipment manufactured from aluminium or its alloys, owing to the impossibility of removing the oxide film which coats the surface of the metal.

Many patent solders and fluxes have been evolved from time to time but numerous aluminium "solders" hardly justify the name, being only a good grade of cellulose cement with the addition of metallic powder. Naturally such "solders" cannot produce a true melted metal joint, and hundreds of thousands of domestic and commercial appliances have been prematurely scrapped on account of the failure of existing soldering methods.

SOLDERING ALUMINIUM

Due to the ever-increasing use of aluminium, it has become imperative over recent years to find an efficient and economical means of soldering vital equipment which is frequently irreplaceable.

So important did this difficult problem become, defying as it did for many years the extensive research resources of the entire industrial field, that it earned the attention of one of the Philips associated research laboratories in England. The answer from these scientists came finally to wrest still another secret from Mother Nature, and aluminium soldering was made possible by the development of an ultrasonic soldering iron.

The solder used may be either tin-zinc, or lead-zinc or any of the other soft solders available today with the exception of resin cored solder.

ULTRASONIC WAVES

This unique piece of apparatus employs ultrasonic waves, which are sound waves so highly pitched that they are inaudible to the human ear, as a means of destroying the oxide film on the surface of aluminium.

As the illustrations show, the ultrasonic soldering iron is similar in appearance to the well known soldering guns employed by radio and electrical repairmen. Indeed it incorporates an ordinarv soldering bit which can be used for the soldering operation proper once the oxide film has been removed by the ultrasonic part of the equipment and the metal tinned. The ultrasonic energy is controlled by means of a trigger in the gun type handle.

$5 LB

TINNING ALUMINIUM ON A PRODUCTION BASIS

For commercial purposes where a large number of small aluminium parts must be cleaned and tinned, an ultrasonic tinning bath is available. No flux is required, ultrasonic energy alone being used to destroy the oxide film on the metal.

WORLD WIDE INDUSTRIAL USE

The interest of industrialists throughout the world has been focussed upon this new product. Huge concerns such as Westinghouse Electric Corp. of U.S.A., North American Aviation Inc., Boeing Airplane Company and the Hamilton Watch Company are satisfied users of this new ultrasonic soldering equipment, as well as hundreds of domestic and commercial appliance manufacturers in every corner of the globe.

Detailed information on the ultrasonic soldering iron described here may be obtained on application to the Electronics Department, Philips Electrical Industries, P.O. Box 2097, Wellington.

KEEPING IN TOP FORM

Philips Infraphil is indispensable for those who follow strenuous sports

TO REMAIN in top condition, thousands of sportsmen nowadays use the Philips Infraphil. Its soothing, healing warmth makes massage more beneficial, alleviates pain in muscular cramp, sprained wrists or ankles . . . helps to heal cuts and wounds, and is a boon for those who suffer from sore throat, inflammation and minor respiratory troubles.

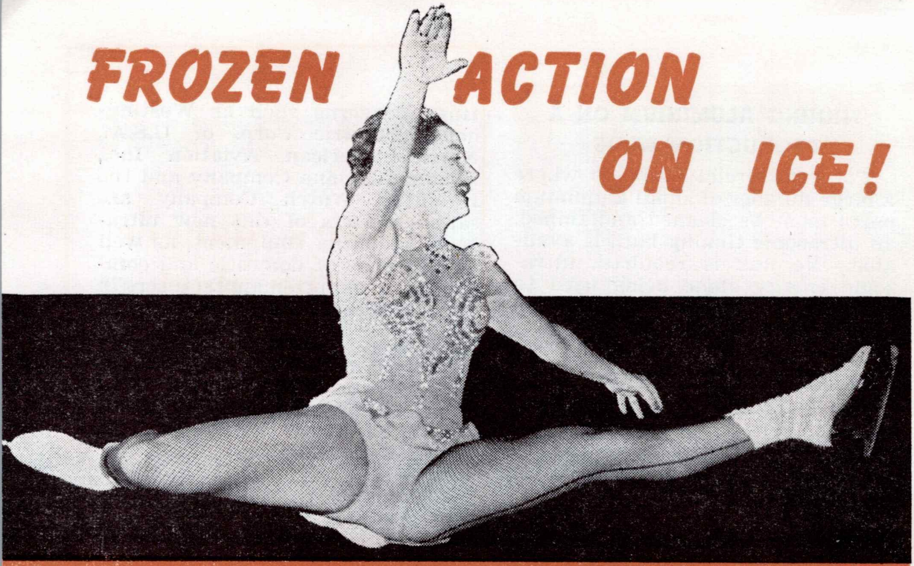
Under the influence of heat, the blood vessels expand, more blood flows to the affected area and injurious substances are carried off. The healing process is accelerated and pain relieved.

SOOTHING, HEALING HEAT THAT GETS UNDER YOUR SKIN

For the blood vessels to be adequately warmed, it is necessary for the rays to penetrate through the skin, and not a single one of the household remedies is capable of achieving this, for the function of the skin is to absorb heat and not to let it pass through. Only short-wave infra-red rays of 0.7 to 1.4 microns have the power to penetrate the skin without being absorbed in the outer layers, and it is just these rays that are emitted by the Philips Infraphil medical lamp.

Philips Infraphil can be used anywhere, in the bedroom, the bathroom, the nursery, the living room, in any place where it can be plugged in to the electric light system.

FROZEN ACTION ON ICE!

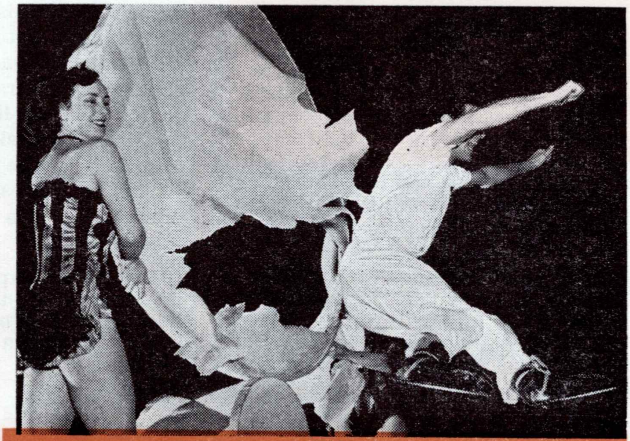


SPLIT SECOND PHOTOGRAPHY! The photograph above shows high flying Pat Gregory of the Ice Follie company standing still in mid-air in a perfect splits. Miss Gregory, who began skating in Sydney when she was 13, and won the International gold medal for figure skating in 1947, says this is the best action picture of her ever taken.

PHILIPS electronic flash tubes are being used more and more these days by press photographers and others who take action pictures at night or under poor lighting conditions. Where ultra-high-speed movement must be stopped in the space of a split second, Philips electronic flash tubes "freeze" rapid action with exposures of the nature of 1/6000sec.

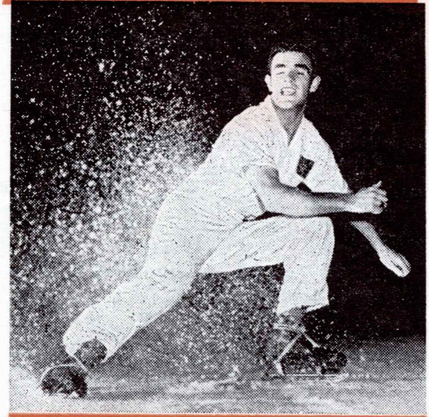
One of New Zealand's leading newspapers recently featured the photographs shown here in a story on the visiting Ice Follie company. As with all their news work, the "Evening Post" photographers used Philips electronic flash to make these outstanding pictures.

Further details on electronic flash which offers the advantages of unlimited exposures and easy portability as well as the ability to stop rapid action, can be obtained on application to Philips Electrical Industries of New Zealand Limited, Box 2097, Wellington.



***SIX-THOUSANDTH** of a second in the life of Jimmie Elder—and Netta Dunsmore—as he bursts through a paper hoop and lands inches from the stage edge.*

STANDING STILL? Far from it. These featured skaters, Netta Dunsmore and June Michaelson were spinning faster than the eye could follow when the camera stopped them.



ICE FLIES! Speed skater Jimmie Elder skids to a stop with a twist of his flashing ice hockey skates. Jimmie was training as a member of the 1948 British Olympic ice hockey team when he turned professional for a stage career. These studies in suspended action were made by an "Evening Post" photographer using a Philips high speed flash tube and an exposure of 1/6000sec.

COVER PHOTOGRAPH

FLOATING ABOVE THE ICE in a flawless stag leap, is twenty-three-year-old Cissy Trenholm. Miss Trenholm decided to be a skater after seeing a Sonja Henie film and at 15 she became Eastern States of America champion.

Driving at night can be hazardous for you and for others on the road unless your car is equipped with a reliable and efficient lighting system.

There's danger in the dark

JOHN stretched himself wearily as he climbed into the driver's seat. It was a cold and dismal winter evening and he wasn't looking forward to the journey home. The prospect of driving through town on slippery streets and heading into the teeth of a southerly buster was hardly likely to put anyone at ease. He groped for the switch marked headlights and noted with satisfaction the brilliant blaze of light that was thrown on the roadway ahead. Glad I installed Philips "Duplo" lamps last week, he thought to himself . . . that traffic beam will see me home safely.

Carefully dipping his lights again, he started off through heavy city traffic. Even although cars coming towards him had their lights dipped too, John noticed quite an uncomfortable dazzle from some of them. What was it the salesmen had told him about an anti-dazzle device being built into the bulb? Oh yes, Philips "Duplo" lamps have a small metal shield in which the "dimming" filament is incorporated. When switching over from the main filament to the "Duplo" filament, this shield shuts off all dazzling rays so that traffic can pass each other safely. Darn it, he thought, there goes another

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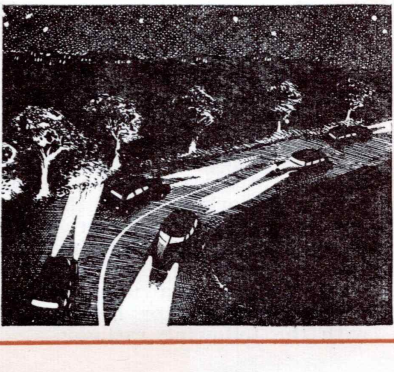
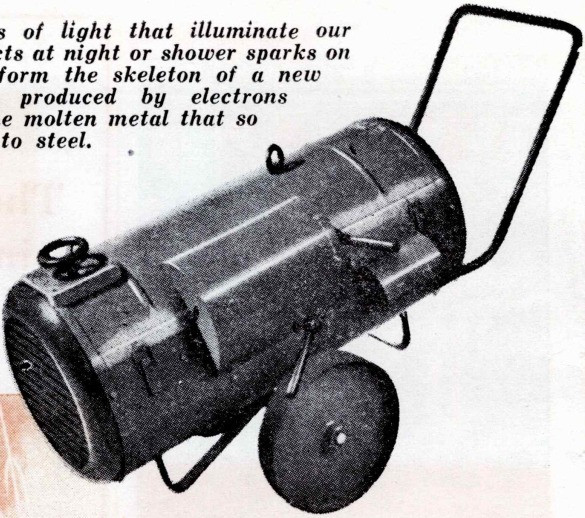


Those blinding arcs of light that illuminate our hydro-electric projects at night or shower sparks on the girders which form the skeleton of a new city building, are produced by electrons dancing about in the molten metal that so firmly unites steel to steel.



A VITAL TASK IN ENGINEERING for the ELECTRON

ELECTRIC arc welding is vital to modern engineering in many hundreds of ways and Philips supply not only the machines but welding electrodes of which there are different types for every kind of job, for a shipbuilding yard and for the village blacksmith, for a steel bridge and for a sheet iron stove.

A DUAL CURRENT WELDING MACHINE . . . PHILIPS TYPE 1306

Arc welding of a complicated or difficult nature such as welding thin sheet metal, bare wire welding, vertical and overhead welding, stainless steel, etc., is handled with direct current but simple welding jobs and those demanding a heavy current arc are best done with alternating current. As there is a need for both types of welding to carry out the various classes of work arising in the average workshop, Philips produce a versatile A.C./D.C. machine. The Philips dual current 1306 illustrated here is a universal arc welder for light or heavy work with the following ratings:—

D.C. range 25-140 A A.C. range 60-300 A

Maximum Load

D.C. 140 A, 25 V arc voltage
A.C. range 300 A, 30 V arc voltage

Welding Electrodes

Coated electrodes 16-2 SWG
Bare wire 14-8 SWG

If higher currents are required two plants can be connected in parallel.

PRACTICALLY FREE FROM INERTIA

One of the advantages of this machine which deserves special mention is its virtual freedom from inertia, guaranteeing immediate ignition, stable arc and uniform penetration. In use the welding electrode melts drop by drop. Each droplet causes a short-circuit between the electrode and the workpiece, the arc being extinguished for a fraction of a second and then re-ignited. The welding machine must be capable of coping with the resulting voltage variations following one upon the other at an amazing speed. If the machine does not respond quickly enough, then the welding material splutters or the electrode sticks to the workpiece, whilst sudden surges of current may well burn right through the plate. The short-circuiting and re-ignition of the arc have to follow each other as quick as lightning.

On D.C. welding Philips type 1306 has the remarkable property of being able to overcome all the eccentricities of the welding arc without the slightest delay. The actual recovery time is less than 0.002 seconds. This is because two practically inertialess electronic valves are used to produce direct current instead of employing the rotary type of converter. Another advantage of valve rectifiers is their silent operation, an important consideration on lengthy jobs. Their life is virtually that of the machine.

This dual current welding machine features compact construction, light weight and great mobility. It is equipped with power factor correction condensers already mounted beneath the machine.

Owing to increased production it is now possible for our factories overseas to offer the 1306 at a greatly reduced price, and this saving is being passed on to the user.

PHILIPS 1306 IS NOW SELLING AT THE AMAZINGLY LOW PRICE OF £248 COMPLETE WITH ALL ACCESSORIES.

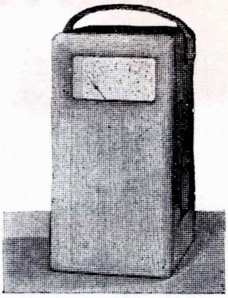
Write for further details available from all branches of Philips Electrical Industries; Weldwell (N.Z.) Ltd., Napier, Wellington and Auckland; Wooff & Salvesen Ltd., Christchurch; J. & A. P. Scott Ltd., Dunedin and Invercargill; or West Coast Agencies Ltd., Greymouth.

PHILIPS

welding current meter

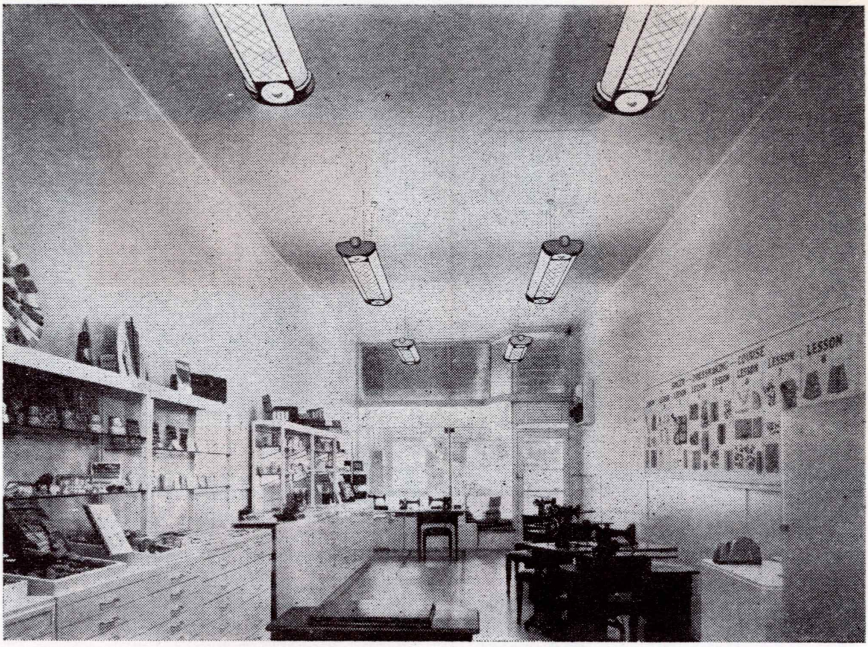
FOR best results in electric welding the welder must know accurately the amount of current being used.

It frequently occurs that during welding operations the output of the welding transformer or rectifier does not correspond to the welding current shown on the scale of the welding machine. As a consequence, inferior results may be obtained, and it could happen that the blame may be wrongly placed on the electrode being used.



The Philips welding current meter enables the welder to check and measure the actual amperage at any instant. All that is necessary is to pass the welding cable through the measuring aperture in the meter case and the current is then read directly from the meter scale.

Both D.C. and A.C. may be measured in a wide range of currents, namely from zero to 750 amps. This current meter is highly portable being fitted with a leather carrying handle to support a strong wooden case. We do not usually mention prices in the Philips Bulletin but we might as well say that the price is £10/10/- while that figure is in our mind.



LIGHTING a STORE

CAREFUL ATTENTION TO LIGHTING CREATES AN ATTRACTIVE STAGE FOR ARTICLES ON SALE

TAKING the place of the traditional shop window with its limited selection of merchandise, the architecture of a modern store is designed to create the impression that the entire shop and everything it contains is on display. Goods which are actually being sold are placed in full view of the hundreds of potential customers who pass by every day.

PLANNED LIGHTING

One of the most attractive examples of planned store lighting we have seen recently is the new Singer Sewing Centre in Wellington where Philips latest development in fluorescent lighting has been utilised.

The Singer Sewing Machine Company has grown into one of the largest trading organisations in the world, with branches of the parent company in practically every major city. Here in New Zealand, Singer have recently opened a new ultra-modern Sewing Centre situated in the heart of Wellington's busy shopping area.

In this pleasant store there is an air of spaciousness and yet a warm friendly atmosphere which bids customers stay awhile—to choose carefully from the wide range of articles on display.

A MODERN SHOWROOM

As many as twelve different models of Singer machines are on view in the showroom, and it is interesting to note that all of them, with the exception of one, are powered by electricity. The one console model treadle machine can also be adapted for power if required. Each machine is fitted up ready to demonstrate at a moment's notice, and lighted as attractively as they are, the temptation to see them in operation is very great.

Embroidery cottons to rival the rainbow, sewing cottons of just the right shade to match your material, no matter how exclusive, and multicoloured buttons which add a gay lighthearted accent to feminine apparel are displayed in endless variety.

The photographs at left and at right show the bright rows of Philips "Instant Start" fluorescent fittings XF-240 installed in Singer's modern Sewing Centre in Wellington.

New Philips fluorescent lighting simplifies colour matching

Colour is everywhere . . . the gay sparkling hues, the soft pastels or the delicate subdued tonings, all of which make up the symphony of modern fashions. Colour and the quality of illumination are inseparable, because some forms of interior lighting can alter hues sufficiently to make them appear warmer or colder than they really are. As a result, customers shopping for matching shades in cottons and fabrics have become accustomed to examining colours by daylight to be certain of a perfect match.

SEEING COLOURS CORRECTLY

Once, the sale of such articles often entailed a trip outside the store "into the daylight" to convince milady that colours were correct. But now she can see perfectly to match colours inside this store, because a revolutionary new type of fluorescent lighting shows colours correctly. These Philips XF-240 "Instant Start" fluorescent fittings combine smoothly blended fluorescent and incandescent lighting to achieve the faithful colour rendition so important here.

Philips "Instant Start" fluorescent fittings XB-240 and XF-240 need no heavy ballast or starters—instead they operate with two incandescent stabilising lamps which provide blended light, adding depth to the illumination.

Here in the Singer Sewing Centre the cheering effect of abundant light was attained by installing twelve Philips XF-240 "Instant Start" fittings in the showroom, giving an overall illumination of 25 foot candles.

The store windows are lighted by means of Philips "Slimline" SL-120 and SL-140 fluorescent fittings, mounted directly above the window glass in a pelmet which is concealed from pedestrian view by short venetian blinds.

Similar lighting installations are being made in Singer Sewing Centres at Napier, Hutt City and Levin.

Singer Sewing Machines A Century of Progress

Just over 100 years ago America saw the birth of the sewing machine age. Up till that time such machines had been little use. They were costly, elaborate and slow in operation. It was Singer who first improved and later manufactured sewing machines on a large scale, thereby revolutionising the garment industry and lightening the burden of almost every housewife in the world. For in the century of Singer there remained very few homes without a sewing machine and most of the machines bore his familiar trademark.

WHISKERS AWAY ★ ★ ★

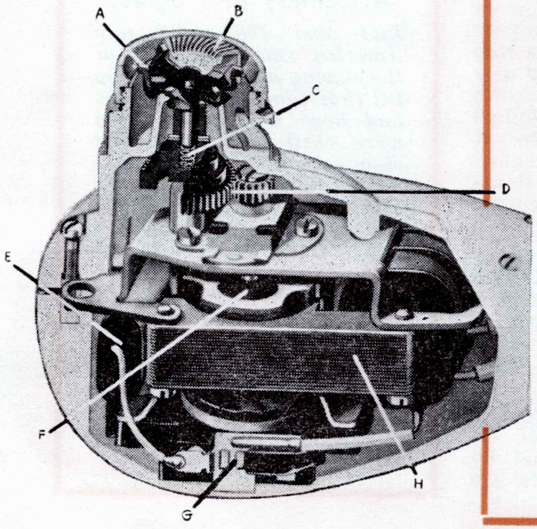
ANCIENT razors have been found dating back to 2000 B.C. —proof that even in the earliest days men realised the virtues of a clean shaven beard. The name of the very first man to whack off his whiskers is probably lost in the hairy haze of history. But chances are that he did it to please some woman! Marc Antony is said to have submitted to the ministrations of a barber ten times over before dating the glamorous Cleopatra.

Nevertheless, the shaggy cheek and hairy chin have long been considered unmistakable badges of masculinity. But these itchy relics from the days when men were men are as outdated as some of the early "torture" forms of shaving, where the main object was to get rid of the whiskers at the expense of the face. American Indians were handy at using clamshells or heavy metal tweezers to yank out their whiskers by the roots, while the legendary lumberjacks of the American Northwest are said to have made their doublebitted axes serve as razors.

At this stage in our development the average male was using the fearsome straight razor, and as Grandfather will tell you, shaving was quite an accomplishment in those days. Towards the end of the 19th Century, the guarded blade, or so-called "safety" razor came into general use. Today, practically every old man of 30 or more knows what it is like to discover his last blade has been used by the kids to sharpen pencils, or borrowed by the little woman to trim linoleum.

THIS ATOMIC AGE

What with everything being automatic, electronic or atomic these days, the phenomenal growth in the use of electric shavers as whisker removers is a surprise to practically no one who has observed their meteoric rise since the early thirties. Men reasoned that, if a modern gadget can do the



A. 6 finely ground cutters, silver steel alloy

B. 60 angulated tapered slots, chrome nickel alloy

C. Spring tension holds cutter firmly against skin guard

D. Silenced reduction gears provide proper cutter speed

E. Condenser reduces radio interference

F. Series wound universal motor with 3 point flexible suspension

G. Long wearing spring mounted carbon block brushes

H. Laminated field structure

pesky job easier and better, why not use it?

Scientists at the vast Philips research laboratories in Holland have investigated the problem of whisker removal with typical Dutch thoroughness. In their search for information preparatory to the development of the Philishave rotary electric shaver, Philips researchers came up with these whiskery findings, published in their Technical Review:

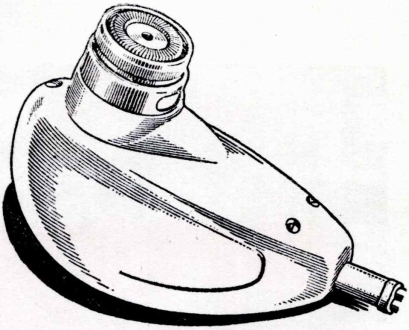
> Whisker density per square inch of male face varies with the individual. Chin whiskers vary from 260 to 780 per sq. in., with an average of 580. On the cheeks, the growth varies from 235 to 550 per sq. in., with an average of 390. The normal beard has 13,000 hairs, with an average thickness of 28/10000 of an inch, grows in all directions from the skin in so-called "hair streams" at an average daily rate of 15/1000 of an inch.

SAVING FACE

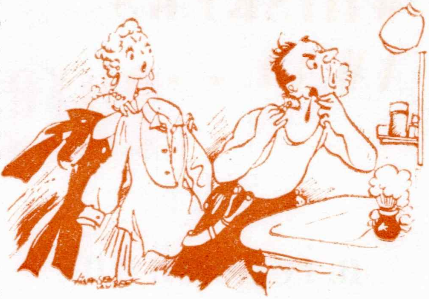
How to cut away these "hair streams" without damaging the face called for plenty of mechanical ingenuity. What the development engineers finally produced was an electric shaver with a rotary head having 60 angulated slots which pick up all hairs regardless of growth direction. A self-sharpening six bladed silver steel cutter removes the hairs with a rotary slicing action, not an oscillating motion as in a pair of clippers. Of course the skin is completely guarded from the cutter so that only the whiskers are trimmed without so much as a tiny scratch even on sensitive skin.

The Philishave rotary electric dry shaver is powered by a real brush type electric motor making it reliable and troublefree. It is available from Philishave retailers throughout New Zealand, moderately priced at only eight guineas.

Getting rid of the face foliage electrically has other compensations. No longer need the man of the house talk his way into the new feminine stronghold, the bathroom, just to shave. He can now shave anywhere, even in bed, in suave comfort, without spraying cut whiskers all over the domestic landscape.



PHILISHAVE
does away with all this . . .



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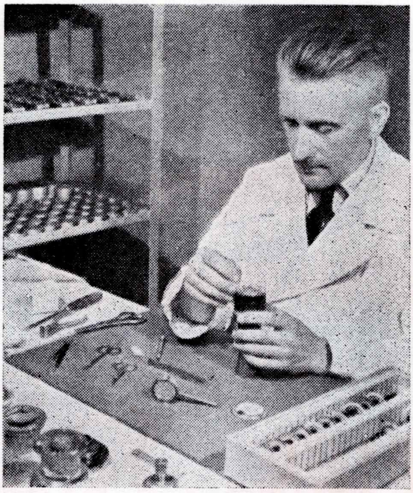
THERE'S DANGER IN THE DARK

driver who hasn't heard about these new Philips lamps; still, I suppose it won't be long before every motorist is using them, and then the roads will be a whole lot safer for everyone.

Once out on the main highway it was plain sailing; there was very little opposing traffic and John was able to average quite good speed. The broad, white driving beam from his lights cut through the misty rain, brightly illuminating the highway ahead and he soon found himself pulling up safely outside his driveway. It's a good thing Philips make auto lamps that can be relied upon he thought . . . for safe, fast traffic, good reliable lighting is just as essential as good brakes.

A complete series of Philips auto lamps is available and from this range, any car, whatever make it may be, can be correctly equipped. Whether head lights are wanted or a tail light, a direction indicator or a dashboard lamp, you will find a suitable lamp in the Philips series.



The microphone

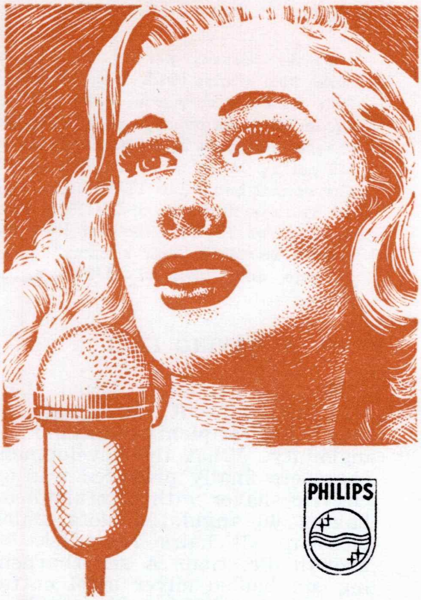
AN ELECTRICAL POWER HOUSE ON A LILLIPUTIAN SCALE

THE most striking thing about a modern workshop where microphones are assembled is that it is not at all awe-inspiring; there are no conveyor belts and complicated automatic machines. The workers are seated at their benches working quietly and apparently even slowly, but in a very concentrated way, assembling the dozens of parts from which that precision instrument, the microphone is made up. It reminds one of a watchmaking factory. It is here that the final assembly takes place of that part of the microphone which has a similar function to the dynamo for a bicycle lamp and the turbo generators of a power station but on a scale which is nothing short of microscopic by comparison.

CONVERTING SOUND INTO ELECTRICITY

It is the function of a microphone to convert sound waves into electrical vibrations, i.e. to transform the mechanical energy of sound waves into electrical energy.

The precision manufacture of Philips microphones makes it possible for them to produce electrical energy from sound vibrations so tiny that no movement of the diaphragm can be observed even under the most powerful microscope.



There are enormous differences in the powers supplied, as will be seen when a turbo generator having an output of 50,000,000 watts (50,000 kw) and a bicycle dynamo of 3.2 watts (6.3V, 0.5A) are compared with a microphone which generates 0.000,000,000,015 watts.

Consequently, the designation "weak-current apparatus" is quite warranted for microphones and even in the weak-current field they occupy a place of their own.

The vibrations of the diaphragm are very small. Thus, for example, in the Philips microphones, types 9585 and EL6020 the average amplitude is three millimicrons (0.000,003 mm). Such vibrations are not visible, even under the most powerful microscope. This amplitude of three millimicrons applies to a vibration produced by a sound of 1000c/s and with a level corresponding to loud conversation.

MICROPHONES ARE VERSATILE!

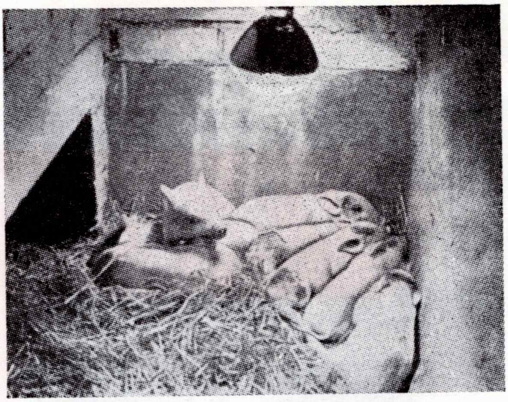
A beat of the kettledrum in a concert hall may give an amplitude of 300 millimicrons, i.e. 100 times more than the average. With a weak but high note, the amplitude may decrease 1000 times and become no more than 0.003 millimicrons (0.03 Angstrom). An object with a diameter of 0.3 microns can still be made visible with the aid of a microscope and ultra-violet light, but very special and highly complicated equipment is required. There is nothing to compare with the smallest amplitude, 0.03 Angstrom, unless it be the size of a molecule. An oxygen molecule has a diameter of about 3 Angstrom, consequently the vibration of the diaphragm is only one hundredth of the diameter of these molecules.

The range of sound waves that can be faithfully transmitted by a microphone is very extensive. The ratio between the largest and the smallest amplitude of its diaphragm is 100,000:1. A balance with such a measuring range would be suitable for weighing precious stones as well as sacks of coal.

MICROPHONES ARE TOUGH!

Certainly there are scientific measuring instruments much more sensitive than the microphone, as for example, those used for measuring the properties of celestial bodies at distances of hundreds of light years. But whereas these instruments are extremely expensive and there are only a few of them in the whole world, microphones are manufactured in large numbers without any perceptible tolerances.

But what is still more astonishing is that such a fine and sensitive instrument can stand shocks and vibrations, heat and cold, humidity and dryness, in short a treatment to which no other instrument of the same sensitivity could safely be subjected.



PIGS *GET SUNRAY TREATMENT AT THIS FARM*

PHILIPS infra-red lamps are solving problems of keeping animals warm everywhere. Orphaned lambs as well as thousands of pigs, are alive and kicking now because their owners realised the value of infra-red warming and the convenience and economy of Philips lamps.

The following article has been condensed from the Rossendale Free Press, England, dated March 17th, 1951.

Janie is the proud mother of ten children and if she's more houseproud than most of her kind there's a reason for it. Janie, you see, happens to be a pig and on a Friday evening recently she produced ten smooth, pink offspring. There's nothing unusual in that of course, but what is unusual is the treatment these ten little piglets are enjoying.

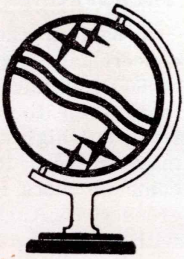
At the present time they have the honour of being the only piglets in the district to be undergoing sun lamp treatment, and judging from the frisky way they were behaving when a reporter had a look at them, the treatment is really doing them good.

The treatment consists of providing infra-red lighting in a portion of the sty. Normal practice is for newly born piglets to huddle up to their mother for warmth and the result is that some are inevitably crushed. Others catch cold and pneumonia, and pig breeders reckon to lose three or four out of every ten. With infra-red lamps a portion of the sty is bricked off so that only the piglets can get in, and this part is warmed by the infra-red rays.

The sight of ten small pigs stretched out in a row "basking" in this artificial sunshine was an eloquent testimony to the success of the scheme. Nearby farmers have between them lost all but three out of 27 piglets, but these ten look and are fighting fit.

It has been estimated that if the system were universally adopted, Britain's pork and bacon production would go up by more than 70,000 tons a year.

HERE AND THERE in the *Philips World*



Horticulture and Artificial Light

In one of the corridors in Philips research laboratories at Eindhoven are a large number of plants and flowers being experimentally cultivated under fluorescent and high pressure mercury vapour lamps. Several hothouses full of all kinds of colourful plants bear witness to the surprising results being achieved. Dr. van der Veen, who is in charge of the project is using these hothouses and lamps for the study of a little known subject, the influence of light upon the growth of plants. The results of his investigations may prove of great value, especially in countries where the climate is changeable. Horticulturists need no longer be dependent on the vagaries of the climate, since artificial light and heating can now provide for constant climatological conditions. The results so far obtained already prove that further developments will lead to practical applications in this direction.

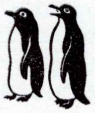
Philishaves for Korea

The Centurion tanks of the British 5th Royal Inniskilling Dragoon Guards, now in Korea, are being fitted with electric dry shavers, 60 of which have been flown out to the Regiment.

It is now learned that the units are Philishaves and that the idea resulted from a letter to Philips, London, from a lieutenant serving with the Regiment asking if his Philishave could be adapted to run off dry batteries.

The idea was quite practical, and following discussions with the War Office and tests made at Bovington Camp, it was decided that it was worthy of wider adoption. Consequently, a batch of Philishave dry shavers was specially adapted. An extra long flex has been provided so that the shavers may be used outside the tanks.

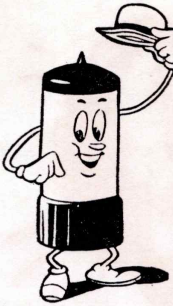
S.O.S. from the Antarctic



Philips sales organisation in the Netherlands had a phone call one day from the purchasing department of the Netherlands Whaling Company, to say that a radiogram had been received from the Dutch whaler "Willem Barendz", at the time on an expedition in the Antarctic, requesting that a Philips variable transformer, type 84521 be sent out immediately. Thus it appears that even in the polar regions, Philips instruments and the type numbers of their parts are well-known and called for.

Philips Ultra-violet Lamps in Cancer Research

Dr. Setala, a Finnish scientist engaged in cancer research work, is using Philips MB/W lamps. After injecting cancer bacteria into mice he follows the spread of the bacteria through the cells by taking photographs with the aid of an MB/W lamp, since the substance injected has the property of fluorescing when exposed to ultra-violet rays.



SPOTLIGHT ON NEW ARRIVALS

THIS feature will be published regularly in issues of Philips Bulletin and will serve to introduce to our friends in the electronic industries, radio technicians, servicemen, amateurs and others, the constant stream of new Philips products of a technical nature which regularly arrive in New Zealand from overseas. Space permits of a brief outline only, but the fullest specifications can be obtained on application to Philips Electrical Industries, P.O. Box 2097, Wellington.

New Valves

Recently we have received delivery of shipments of new electronic tubes which are outlined briefly below.

EF43—An H.F. pentode with variable slope for broadband amplifiers

The new all-glass Rimlock tube EF43 has a maximum slope of 6.3 mA/V, and an equivalent noise resistance of only 2500 ohms. Control grid voltage is –2 to –30, input and output capacity 9.5 pF and 4.5 pF respectively. This is a new tube with a very wide field of application.

PB1/150

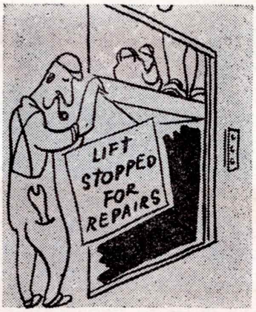
The tube PB 1/150 is a direct equivalent of the American type 828. Our own tests indicate that the PB 1/150 is even better than the 828.

PL435

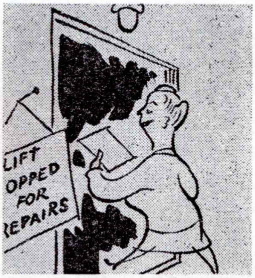
The PL435 is a hydrogen thyratron suitable for switching in line modulator circuits of microwave radar systems, in welding timing circuits and pulse communication systems, for use in induction heating and control circuits and for shock excitation of tuned circuits.

The short deionisation time makes the tube especially suitable for pulsing service at very high repetition frequencies, at high peak currents and high voltages (90 A max. and 8 KV max. with a duty cycle of 0.0014 max.).

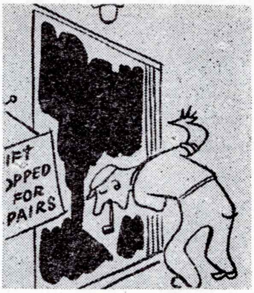
All the products mentioned are available from Philips branches in Auckland, Wellington, Christchurch and Dunedin.



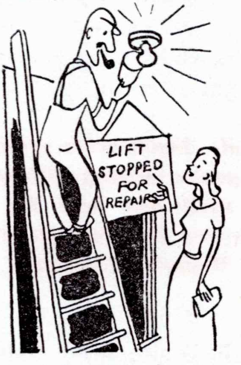
Watch the opening . . .
use the stairs;
Lift is stopp-ed for repairs.



"Thank you, driver . . .
going down?"
That's amen for Martha Brown.



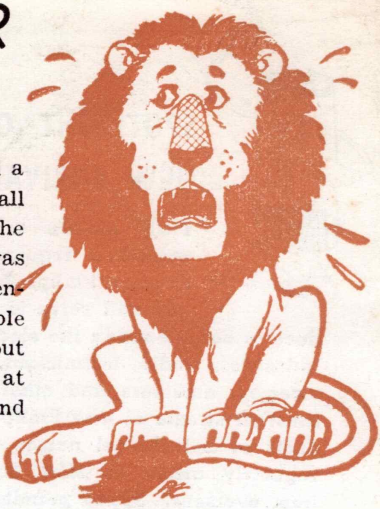
Blimey, lady . . . a quick
descent,
Non-stop to the firmament.



Moral: Use Philips Lamps
in dim-lit places
So people won't fall on their
faces.

THE LION'S ROAR

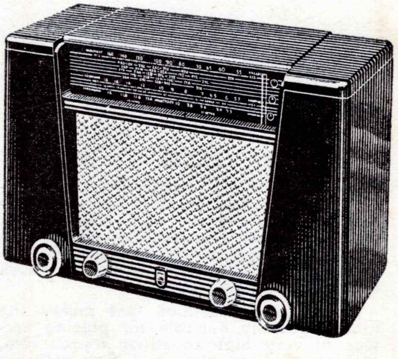
(This is a fable)



ONCE there was a small town, which had a very small zoo, which was the pride of all the townspeople. And the showpiece at the zoo was a very tired, elderly lion who was kept behind huge bars and padlocks. Whenever a stranger came to town, the townspeople brought him to see the lion. They would shout and make faces at the tired old lion, until at last in disgust he would open his jaws and give a feeble roar with his hoarse old throat. And the townspeople would say to the stranger: "There! Did you ever hear such a wonderful sound?" Some of the strangers would politely pretend to be amazed, but others only laughed at the townspeople for thinking this was anything like a real lion's roar. These were only being rude, the townspeople thought, and they never invited them to the zoo again. But one day a circus came to town, with a menagerie and a healthy young lion in his full strength. And when this young lion was brought into the ring and opened his jaws to thunder out a real roar in all its majesty, the townspeople were struck dumb with amazement and terror. And they sadly realised that the strangers who had laughed at them were right after all.

Moral: You'll never realise how much you're missing with your old radio until you hear the latest Philips New Era Radioplayers with "New Magnetic Listening".

Illustrated here is Philips Multiplayer 426, a large mantel model dual wave radio with the added advantage of bandspread tuning on the popular 31 and 25 metre shortwave bands. Never before in all Philips long history have so many new features been built into a new model and never before has it been possible to produce such an outstanding performer at so competitive a price. Remember, it is the use of Philips new range of micromagnetic materials in the circuit of the Multiplayer that brings you the thrill of "New Magnetic Listening".



PHILIPS MULTIPLAYER 426 is priced at only £32/10/-.

Philips Radioplayers are obtainable everywhere throughout New Zealand

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GYLES